Index for Volume 70 of Plant Disease

AUTHOR AND SUBJECT INDEX. Page numbers of illustrations are in parentheses. Pages of errata are in italic type.

Abbas, H. K., 78
Abdalla, O. A., 173
Acciavatti, R., 259
Acer spp., tip dieback, bacterial cause, 647
Acremonium spp.: on fescue and ryegrass, endophytes, detection, 431, (433); on soybean, variation, 1005, (1007)
—*A. coenophialum*, on tall fescue, callus culture infection, 380, (381, 382)
Actinomycetes, on apple roots, replant disease, 1125
Adams, P. B., 1043
Adelman, M., 801
Aegilops squarrosa, resistance to rust, mildew, greenbug, and Hessian fly, 553
Aerobiology, *Cercospora asparagi* in North Carolina, 392
Agrobacterium tumefaciens
—on grapevine, detection and indexing system, 566
—on *Prunus* seedlings, heating effect, 532
Agropyron spp., *Corynebacterium agropyri* on, isolation from 30- to 40-year-old specimens, 378
Aguiero, V. M., 971
Aharonson, N., 738
Ahmad, I. B., 1074
Alconero, R., 119, 783
Aldwinckle, H. S., 941, 1017
Alfalfa
—anthracnose of, resistance screening method, 111, (113)
—Phytophthora root rot: flooding stress relation, 310; resistance and planting date, 655
—spring black stem, severity in Ohio, 746
—Verticillium wilt: first report in Kansas, 475; fungus survival in sheep and manure, 218; systemic colonization, 509, (513, 514)
Alfalfa mosaic virus
—on hydrangea, in British Columbia, 541, (543)
—on *Viburnum*, first report in Canada, 173
Allan, R. E., 314
Allen, J., 532
Allium sativum, Fusarium basal rot and pink root, 670
Almond
—shot-hole disease: inoculum survival in buds, 828; yield reduction from, 825
—stone fruit rust of, races in Australia, 202
Alternaria spp.
—*A. cassiae*, on sicklepod, biocontrol and dew period effect, 962
—*A. euphorbiae*, on poinsettia, etiology and control, 73, (74)
—*A. helianthi*, on sunflower, resistance to, 831, (833)
—*A. porri*, on onion, chlorothalonil for control, 875
—*A. solani*, on potato, forecasting in Wisconsin, 915
—*A. tagitica*, on marigold, in New Jersey, 1159
Amador, J. M., 271, 875
Ambrosia artemisiifolia, Sclerotinia rot of cabbage association, 26
American Phytopathological Society, preliminary program, 1986 annual meeting, 695
Amphobotrys ricini, on texasweed, first report in USA, 892
Anagnostakis, S. L., 536
Anand, S. C., 787
Anderson, R. L., 50, 452
Anderson, T. R., 468, 603
Andreas, J., 892
Anigozanthos spp., rusts in Australia, 475
Antonelli, E. F., 883
Apple
—bacterial blister bark and blight of, in South Africa, 403, (404)
—*Botryosphaeria* diseases of, in Southeast USA, 480, (482, 483)
—collar rot, soil drench and composted bark treatments, 24
—fire blight resistance in, 1017
—nematode and cover crop relation, 436, (436, 437)
—Phytophthora crown rot, seasonal variation, 941
—powdery mildew of, fungicides for, ergosterol biosynthesis effect, 305
—replant disease, actinomycete on roots, 1125
—scab, spore germination and appressorium formation, 658
—sooty blotch and flyspeck of, fungicides for control, 281
Apt, W. J., 81
Aragaki, M., 73
Arceuthobium spp., on pine, in California, 173
—*A. abietinum*, brown felt blight fungus of, in California, 798, (799)
Arneson, P. A., 320
Arthrobotrys amerospora, biocontrol agent for *Heterodera glycines* on soybean, 448
Ascochyta spp.
—*A. hordei*, on barley, leaf spot in New York, 1074
—*A. phaseolorum*, on cowpea, pea, soybean, and sweet potato, in Rwanda, 1159
Asiedu, S. K., 259
Asparagus
—Phytophthora root rot of, yield loss from, 15
—purple spot of, wounding and wetting effect, 419
Asparagus virus I and II, California survey, 103
Aspen
—Hypoxylon canker, 65-year research program, 803, (803, 804, 806)
—tip dieback, bacterial cause, 647
Aspergillus flavus, on corn kernels, aflatoxin production, 429
Athow, K. L., 500
Ausher, R., 95
Avenius, R. C., 453
Averre, C. W., 392, 614
Avocado, Phytophthora root rot, lab screening technique, 115
Awuah, R. T., 1154
Azevedo, M. D., 431

Baca, S., 647
Bacillus subtilis
—biocontrol agent for Verticillium wilt in maple, 521
—peach brown rot controlled by, postharvest control, 587
Bacteria, fastidious
—xylem-inhabiting, on mulberry, new leaf scorch disease, 690
—xylem-limiting, management strategy, 182, (182-185)
Bagnall, R. H., 301, 621
Bahadur, P., 173
Baier, J. H., 42
Bajet, N. B., 971
Baker, F. A., 694
Baker, R., 145
Balansia cyperi, on purple nutsedge, possible biocontrol, 597
Baldwin, C. H., 551
Bambach, R. W., 202
Banana, Fusarium wilt, in Taiwan, 814, (816, 817)
Barbercheck, M. E., 945
Bark, composted, for apple collar rot control, 24
Barker, K. R., 958
Barley
—Ascochyta leaf spot of, first report in New York, 1074
—common root rot, fungicides for, 639
—Pyrenophora spot blotch of, pathogenic variation, 684
—Rhizoctonia and take-all of, herbicide effect, 879
—root-knot nematode of, in Virginia, 801
—scald of, symptoms, 800
—stripe rust of, epidemic in South America, 141
—*Verticillium dahliae* on, 981
Barley yellow dwarf virus
—identification by two methods, 461
—on oats, generation mean analysis, 795
—RMV-type, first report in Washington, 475
Barley yellow striate mosaic virus, field detection, 1113, (1114-1116)
Barnard, E. L., 148
Barnett, O. W., 1098
Barnett, R. D., 252
Barta, A. L., 310
Bartz, J. A., 259
Bassett, E. N., 70
Basswood (see Linden)
Baudoin, A. B. A. M., 191, 352, 519
Baumer, J. S., 629
Baxter, L. W., Jr., 499
Bays, D. C., 667, 777
Bean, Fusarium root rot and Sclerotinia wilt of, management factors, 163
Bean common mosaic virus
—necrotic strain in Ontario, 694
—Tanzanian strain of, 839
Bean pod mottle virus, on soybean, early and late planting response, 222
Bean yellow mosaic virus, on peanut, pathogenicity, 667, (668)
Beckerson, D. W., 55
Beer, S. V., 1017, 1125
Bell, D. K., 187
Belonolaimus longicaudatus, on cabbage, fumigant and nematicide effect on yield, 581
Bemisia tabaci, cotton leaf crumple virus vector, 981
Bender, C. L., 383
Beniwal, S. P. S., 128
Benson, B. L., 15
Ben-Yephet, Y., 738
Berg, C. C., 324
Bergeson, G. B., 326
Berggren, G. T., 759
Bergstrom, G. C., 842, 1074
Bermudagrass
—root-knot nematode of, reproduction determination, 559

Index for Volume 70 of Plant Disease

AUTHOR AND SUBJECT INDEX. Page numbers of illustrations are in parentheses. Pages of errata are in italic type.

Abbas, H. K., 78
Abdalla, O. A., 173
Acciavatti, R., 259
Acer spp., tip dieback, bacterial cause, 647
Acremonium spp.: on fescue and ryegrass, endophytes, detection, 431, (433); on soybean, variation, 1005, (1007)
—*A. coenophialum*, on tall fescue, callus culture infection, 380, (381, 382)
Actinomycetes, on apple roots, replant disease, 1125
Adams, P. B., 1043
Adelman, M., 801
Aegilops squarrosa, resistance to rust, mildew, greenbug, and Hessian fly, 553
Aerobiology, *Cercospora asparagi* in North Carolina, 392
Agrobacterium tumefaciens
—on grapevine, detection and indexing system, 566
—on *Prunus* seedlings, heating effect, 532
Agropyron spp., *Corynebacterium agropyri* on, isolation from 30- to 40-year-old specimens, 378
Aguiero, V. M., 971
Aharonson, N., 738
Ahmad, I. B., 1074
Alconero, R., 119, 783
Aldwinckle, H. S., 941, 1017
Alfalfa
—anthracnose of, resistance screening method, 111, (113)
—Phytophthora root rot: flooding stress relation, 310; resistance and planting date, 655
—spring black stem, severity in Ohio, 746
—Verticillium wilt: first report in Kansas, 475; fungus survival in sheep and manure, 218; systemic colonization, 509, (513, 514)
Alfalfa mosaic virus
—on hydrangea, in British Columbia, 541, (543)
—on *Viburnum*, first report in Canada, 173
Allan, R. E., 314
Allen, J., 532
Allium sativum, Fusarium basal rot and pink root, 670
Almond
—shot-hole disease: inoculum survival in buds, 828; yield reduction from, 825
—stone fruit rust of, races in Australia, 202
Alternaria spp.
—*A. cassiae*, on sicklepod, biocontrol and dew period effect, 962
—*A. euphorbiae*, on poinsettia, etiology and control, 73, (74)
—*A. helianthi*, on sunflower, resistance to, 831, (833)
—*A. porri*, on onion, chlorothalonil for control, 875
—*A. solani*, on potato, forecasting in Wisconsin, 915
—*A. tagitica*, on marigold, in New Jersey, 1159
Amador, J. M., 271, 875
Ambrosia artemisiifolia, Sclerotinia rot of cabbage association, 26
American Phytopathological Society, preliminary program, 1986 annual meeting, 695
Amphobotrys ricini, on texasweed, first report in USA, 892
Anagnostakis, S. L., 536
Anand, S. C., 787
Anderson, R. L., 50, 452
Anderson, T. R., 468, 603
Andreas, J., 892
Anigozanthos spp., rusts in Australia, 475
Antonelli, E. F., 883
Apple
—bacterial blister bark and blight of, in South Africa, 403, (404)
—*Botryosphaeria* diseases of, in Southeast USA, 480, (482, 483)
—collar rot, soil drench and composted bark treatments, 24
—fire blight resistance in, 1017
—nematode and cover crop relation, 436, (436, 437)
—Phytophthora crown rot, seasonal variation, 941
—powdery mildew of, fungicides for, ergosterol biosynthesis effect, 305
—replant disease, actinomycete on roots, 1125
—scab, spore germination and appressorium formation, 658
—sooty blotch and flyspeck of, fungicides for control, 281
Apt, W. J., 81
Aragaki, M., 73
Arceuthobium spp., on pine, in California, 173
—*A. abietinum*, brown felt blight fungus of, in California, 798, (799)
Arneson, P. A., 320
Arthrobotrys amerospora, biocontrol agent for *Heterodera glycines* on soybean, 448
Ascochyta spp.
—*A. hordei*, on barley, leaf spot in New York, 1074
—*A. phaseolorum*, on cowpea, pea, soybean, and sweet potato, in Rwanda, 1159
Asiedu, S. K., 259
Asparagus
—Phytophthora root rot of, yield loss from, 15
—purple spot of, wounding and wetting effect, 419
Asparagus virus I and II, California survey, 103
Aspen
—Hypoxylon canker, 65-year research program, 803, (803, 804, 806)
—tip dieback, bacterial cause, 647
Aspergillus flavus, on corn kernels, aflatoxin production, 429
Athow, K. L., 500
Ausher, R., 95
Avenius, R. C., 453
Averre, C. W., 392, 614
Avocado, Phytophthora root rot, lab screening technique, 115
Awuah, R. T., 1154
Azevedo, M. D., 431

Baca, S., 647
Bacillus subtilis
—biocontrol agent for Verticillium wilt in maple, 521
—peach brown rot controlled by, postharvest control, 587
Bacteria, fastidious
—xylem-inhabiting, on mulberry, new leaf scorch disease, 690
—xylem-limiting, management strategy, 182, (182-185)
Bagnall, R. H., 301, 621
Bahadur, P., 173
Baier, J. H., 42
Bajet, N. B., 971
Baker, F. A., 694
Baker, R., 145
Balansia cyperi, on purple nutsedge, possible biocontrol, 597
Baldwin, C. H., 551
Bambach, R. W., 202
Banana, Fusarium wilt, in Taiwan, 814, (816, 817)
Barbercheck, M. E., 945
Bark, composted, for apple collar rot control, 24
Barker, K. R., 958
Barley
—Ascochyta leaf spot of, first report in New York, 1074
—common root rot, fungicides for, 639
—Pyrenophora spot blotch of, pathogenic variation, 684
—Rhizoctonia and take-all of, herbicide effect, 879
—root-knot nematode of, in Virginia, 801
—scald of, symptoms, 800
—stripe rust of, epidemic in South America, 141
—*Verticillium dahliae* on, 981
Barley yellow dwarf virus
—identification by two methods, 461
—on oats, generation mean analysis, 795
—RMV-type, first report in Washington, 475
Barley yellow striate mosaic virus, field detection, 1113, (1114-1116)
Barnard, E. L., 148
Barnett, O. W., 1098
Barnett, R. D., 252
Barta, A. L., 310
Bartz, J. A., 259
Bassett, E. N., 70
Basswood (see Linden)
Baudoin, A. B. A. M., 191, 352, 519
Baumer, J. S., 629
Baxter, L. W., Jr., 499
Bays, D. C., 667, 777
Bean, Fusarium root rot and Sclerotinia wilt of, management factors, 163
Bean common mosaic virus
—necrotic strain in Ontario, 694
—Tanzanian strain of, 839
Bean pod mottle virus, on soybean, early and late planting response, 222
Bean yellow mosaic virus, on peanut, pathogenicity, 667, (668)
Beckerson, D. W., 55
Beer, S. V., 1017, 1125
Bell, D. K., 187
Belonolaimus longicaudatus, on cabbage, fumigant and nematicide effect on yield, 581
Bemisia tabaci, cotton leaf crumple virus vector, 981
Bender, C. L., 383
Beniwal, S. P. S., 128
Benson, B. L., 15
Ben-Yephet, Y., 738
Berg, C. C., 324
Bergeson, G. B., 326
Berggren, G. T., 759
Bergstrom, G. C., 842, 1074
Bermudagrass
—root-knot nematode of, reproduction determination, 559

—spring dead spot disease of, transmission by soil cores, 877
Bernard, R. L., 872
Biological control
—*Alternaria cassiae* for sicklepod, dew period effect, 962
—*Arthrobotrys amerospora* on *Heterodera glycines*, 448
—*Bacillus* spp. on Verticillium wilt of maple, 521
—*Bacillus subtilis* for peach brown rot, postharvest, 587
—bacterial speck of tomato, pseudomonads for, 1048
—*Balansia cyperi* to purple nutsedge, 597, (598)
—*Colletotrichum gloeosporioides* for *Clidemia hirta* in Hawaii, 974, (975)
—fluid-drilling gels for, soil application, 835
—musk thistle by rust, infection factors, 288
—rust on weedy spurges, 847
—*Trichoderma harzianum*, plant growth effect, 145
—yellow starthistle, fungi and viruses pathogenic to, 295
Biorational, chemical, an effective method for dissemination, 998
Bipolaris sorokiniana
—on wheat in New York, 842
—on winter wheat, crop management practices, 857
Birch, yellow, silver leaf disease of, pathogenicity, 158, (159)
Bird, L. S., 477
Black, L. L., 1074
Blackeye cowpea mosaic virus, seed transmission, 981
Black walnut, Nectria canker
—site factors, 1117
—tree factors, 1121, (1121, 1122)
Bledsoe, A. M., 1050
Blueberry, tip dieback, bacterial cause, 647
Blumenthal, E. M., 259
Boethel, D. J., 759
Bond, W. P., 1074
Bonman, J. M., 125, 767
Bonner, M. J., 1066
Botryodiplodia gallae, on oak, canker on sprouts in Michigan, 76, (76)
Botryosphaeria spp.: on apple and peach, in Southeastern USA, feature, 480, (482, 483); on peach, population dynamics, 134
—*B. dothidea*: on peach, symptomatic responses to isolates, 568; on sequoia, pathogenicity and anamorph, 757, (758)
Botrytis spp., benomyl resistance and pathogenicity, 106
—*B. cinerea*: on grape, in storage, SO_2 for, 1050; on pear fruit, inoculum concentration, 386; on pear fruit, resistance to benomyl and iprodione, 398; on pear fruit, salt solution effect, 1110
—*B. fabae*, on faba bean, resistance, 770
—*B. porri*, on leek, in Canada, 259
Bowden, R. L., 800
Bowman, J. E., 673
Boyette, C. D., 962
Bradysia impatiens, *Verticillium albo-atrum* vector, 752
Brandenburg, L. J., 290
Brassaia actinophylla, Alternaria leaf spot, fertilizer effect, 1144
Brassica spp.
—*B. campestris*, black rot of, aerial dispersal, 409
—*B. oleracea*, black rot of, calcium hypochlorite for control, 1027
Bristow, P. R., 1152
Britton, K. O., 134, 480
Bromegrass, brown leaf spot of, resistance to, 324
Bromus inermis
—*Pyrenophora* and *Leptosphaeria* spp. on, foliar pathogens, 61
—rust of, first report, 801
Broscious, S. C., 857
Browder, L. E., 553
Brown, E. A., II, 480
Brown, E. M., 281
Brown, J. K., 405, 981
Bruckart, W. L., 288, 847
Bruehl, G. W., 314, 851
Bruton, B. D., 413, 875
Buck, K. W., 603
Bugbee, W. M., 352
Bulger, M. A., 475
Burdon, J. J., 1139
Burges, L. W., 632
Burk, L. G., 958
Burke, D. W., 163, 603, 801
Bursaphelenchus xylophilus, on pine in Ontario, 78
Bush, L. P., 380
Byrnes, K. J., 238

Cabbage
—Chinese, clubroot control, chemical, 51
—Sclerotinia rot of, ragweed association, 26, (27, 28)
Cabunagan, R. C., 971
Cactodera estonica, in soybean field soil, 1159
Caddel, J. L., 655
Cafati, C. R., 285
Calman, A. E., 694
Calonectria crotalariae, on oleander, cuttings rot, 352
Cambra, M., 173
Campbell, C. L., 645
Campbell, G. M., 819
Campbell, R. N., 982
Canaday, C. H., 863
Canfield, M. L., 647
Canola
—*Rhizoctonia solani* on, characterization, 681, (683)
—seedling blight, in Alberta, 694
Caperonia palustris, stem canker of, first report in USA, 892
Caperton, C. M., 207
Cappellini, R. A., 261, 605, 988, 1075, 1162
Cardamom mosaic virus, purification and properties of, 65, (65, 67)
Carduus nutans, rust of, infection factors, 288
Carey, E. E., 36
Carling, D. E., 577
Carlson, G., 639
Carnation, Fusarium stem rot of, N and K fertility effect, 29
Carroll, R. B., 238
Carroll, T. W., 1113
Carrot
—powdery mildew of, in North Carolina, 892
—Sclerotium root rot of, fertilizer, fungicide, and tillage effect on, 819, (820)
Carter, J. D., 819
Casper, D. H., 1010
Cassava, bacterial blight of
—causes and control, 1089, (1090)
—in South Africa, 167, (168)
Cassia obtusifolia, biocontrol by *Alternaria*, dew period effect, 962
Castello, J. D., 342
Cedar, nematode association, in Alaska, 352
Celery, Fusarium yellows of
—race 2, control, 1154
—resistance evaluation, 416
Centaurea solstitialis, fungi and viruses pathogenic to, 295
Cephaleuros virescens, hosts in Louisiana and new hosts for USA, 1080
Cephalosporium gramineum, on wheat
—inoculum concentration effect, 421
—resistance in field, 314
Ceponis, M. J., 261, 605, 988, 1075, 1162
Ceratocystis spp.
—*C. fagacearum*: on oak, nitidulid relation, 424; sporulation and mucilage production by, temperature effect, 339, (341)
—*C. ulmi*: benzimidazole-tolerant strains, characteristics, 154; on elm, in Utah, 694
Cercospora spp.
—*C. asparagi*, aerobiology and overwintering in North Carolina, 392
—*C. circumscissa*, on cherry, etiology and control in Israel, 349, (350)
—*C. kikuchii*, on soybean, seed quality and tillage effect, 673
Cereal chlorotic mottle virus, occurrence in North Africa, 912, (913, 914)
Cervantes, L. A., 106, 305, 935
Chafik, Z., 1048
Chalam, T. V., 128
Chalfant, R. B., 730
Chang, Y.-C., 145
Charbonneau, F., 603
Chase, A. R., 334, 346, 441, 561, 1074, 1144
Chemigation, in crop production management, 998
Cherry
—black, Cytospora canker, geographical range, 259
—leaf spot of, etiology and control in Israel, 349, (350)
Chestnut, blight, compatibility groups of pathogen, 536
Chet, I., 145, 426
Chickpea, cucumber mosaic virus on, strain properties, 128, (129)
Chiko, A. W., 173, 352, 541
Cho, J. J., 1014
Chondrostereum purpureum, on yellow birch, pathogenicity, 158, (159)
Christie, R. G., 273
Christie, S. R., 591
Chrysomyxa ledicola, on spruce, epidemic in Alaska, 801
Cishahayo, D., 1159
Citrange stunt virus, on citrumelo rootstock in South Africa, 892
Citrus
—bacteriosis disease of, postharvest treatment for, 1046, (1047)
—leaf spot of unknown etiology, in Argentina, 1074
—postharvest shipment in New York, disorders, 1162
—scab, selective media for isolation, 204
Citrus sinensis, citrange stunt virus of, in South Africa, 892
Clark, C. A., 545, 869, 931
Clark, D., 242
Cladosporium herbarum, on pear, postharvest fruit decay, 1132
Clavibacter spp.
—*C. michiganense*, on corn and popcorn, population dynamics, 1031
—*C. xyli*, on sugarcane, infectivity titrations, 556
Clay, K., 597
Clidemia hirta, biocontrol with *Colletotrichum gloeosporioides*, 974, (975)
Clivia miniata, anthracnose, in South Africa, 800
Clover, white, peanut stunt virus on, first report from Iowa, 1159
Cochliobolus spp.
—*C. carbonus*, race 3, on corn in North

Carolina, 800
—*C. sativus*: on barley, fungicides for, 639; on wheat in New York, 842
Coffey, M. D., 115
Colin, J. E., 1048
Colletotrichum spp.
—*C. acutatum*, on strawberry, first USA report, 1074
—*C. gloeosporioides*: biocontrol agent for *Clidemia hirta* in Hawaii, 974; on *Clivia*, in South Africa, 800; on mango, control, 1149; on strawberry, in Ohio, 475
—*C. graminicola*, on corn, stalk rot and tillage effect, 238
—*C. trifolii*, on alfalfa, resistance screening, 111, (113)
—*C. truncatum*, on soybean and weed, pathogenicity, 780
Compost, sewage sludge, lettuce drop suppression, 197
Computer, pest reporting system, state-federal, 365
Conaway, E. E., 154
Conniff, K., 603
Conservation tillage (see also Tillage)
—corn stalk rot effect, in Delaware, 238
—Rhizoctonia root rot of small grains, in Pacific Northwest, 70
Converse, R. H., 369
Conway, K. E., 169, 835
Cook, K. L., 431
Cook, R. J., 70, 894
Cooksey, D. A., 464
Cooperman, C. J., 392
Corn
—*Aspergillus flavus* on kernels of, aflatoxin production, 429
—bacterial stalk and top rot of, in Florida, 259
—bacterial wilt and blight of, population dynamics, 1031
—captan seed treatment evaluation, 45
—*Cochliobolus carbonus* race 3, in North Carolina, 800
—grain storage, *Fusarium graminearum* survival on, 78
—lesion nematode on, pathogenicity, 636
—nematodes of, hybrid response in Iowa, 234
—northern corn leaf blight: resistance, inbred evaluation, 376; race 2 types and characteristics, 290
—northern leaf blight: *Setosphaeria turcica* race 1 cause, 981; resistance, *Ht* gene effect on inbreds, 529
—Selenophoma leaf spot, in Colombia, 472, (473)
—stalk rot fungi of, tillage effect in Delaware, 238
—Stewart's bacterial wilt of, outbreak in Ontario, 603
—sweet, rust and night temperature and mist period, 950
Cornus florida, tip dieback, bacteria, 647
Correll, J. C., 259, 757
Corylus avellana, tip dieback, bacteria, 647
Corynebacterium agropyri, isolation from 30- to 40-year-old herbarium specimens, 378
Corynespora cassiicola, on poinsettia, in Florida, 1074
Cotton
—plant health maintenance, tactics, 477
—powdery mildew of, in California, 259
—*Xanthomonas campestris* in buds of, 551
Cotton leaf crumple virus, on bean from Mexico, 981
Cotty, P. J., 1159
Coutts, R. H. A., 603
Cowley, H. M., 167
Cowpea
—Ascochyta blight, in Rwanda, 1159
—ashy stem blight of, in Botswana, 603
—bacterial blight and canker of, epidemiology and control, 187
—virus diseases of, in Botswana, 801
Coyier, D. L., 383
Criconemella xenoplax
—on guayule, population dynamics, 579
—herbaceous hosts of, 1066
—on peach, dichloropropene for, 1064
Croghan, C. F., 76, 194
Cronartium quercuum
—on longleaf pine, seedling susceptibility, 50
—on pine: epidemics in plantations, 661; hybrids, resistance, 564
Crop management (see also Integrated pest management)
—chemigation, application and economics, 998
—common root rot of wheat, 857
—wheat, in Pacific Northwest, 894
Crop rotation, onion and *Sclerotium rolfsii*, 426
Crowe, F. J., 877
Cryphonectria parasitica, on chestnut, compatibility groups, 536
Cryptocline cinerescens, on oak, in California, 800
Csinos, A. S., 210, 525
Cucumber mosaic virus
—on buffalo gourd, 405
—on chickpea, properties, in India, 128, (129)
—on *Vinca minor*, identification in New Jersey, 1056
Cucurbita foetidissima, five viruses from, 405, (408)
Cucurbits, viruses of, California, 8, (10, 11)
Cucuzza, J. D., 111
Cullen, R. E., 583
Cummins, J. N., 257
Cylindrocladium clavatum, on soybean, in Brazil, 977, (978, 979)
Cynodon dactylon (see Bermudagrass)
Cyperus rotundus, *Balansia cyperi* on, weed control agent, 597
Cytospora leucostoma, on black cherry, geographical range, 259

Dainello, F. J., 240
Daquioag, R. D., 971
Davis, C. N., 475
Davis, J. M., 490
Davis, M. J., 556
Davis, R. F., 735, 1056
Dean, J. L., 556
Debrot, E. A., 981
Defago, G., 847
Dekker, R., 259
Delp, B. R., 954
deMooy, C. J., 603, 801
Demski, J. W., 667, 777
Derr, M. A., 688
Derrick, K. S., 931
Desjardins, P. R., 173
de Uzcategui, R. C., 981
Dianese, J. C., 977
Diaporthe phaseolorum, on soybean
—first report in Arkansas, 78
—hopper effect on symptom, 759
—status in Florida, 600
Dichotomophthora spp.
—*D. indica*, on purslane, first report in Virginia, 352
—*D. portulacae*, on purslane, in Texas, 603
Dickinson, D. B., 36
Dillard, H. R., 26
Diplodia spp.
—*D. maydis* (see *Stenocarpella maydis*)
—*D. natalensis*, on mango, control, 1149
Discula quercina, on oaks, in California, 800
Disease assessment, computer software for, field runner, incidence, severity, and patterns, 954
Disease forecasting, potato early blight, in Wisconsin, 915
Disease losses, soybean, in southern USA, 893
Ditshipi, P., 603, 801
Dizygotheca elegantissima, Alternaria leaf spot, fertilizer effect, 1144
Dobson, D., 242
Dodds, J. A., 8, 173
Dolan, T. E., 115
Donald, P. A., 352
Douglas-fir, rhabdocline and Swiss needle cast, distribution in New Hampshire, 1069
Dowler, C. C., 998
Drechslera spp.
—*D. dematioidea*, on pincushions, blight of, 33, (34)
—*D. tritici-repentis*, on wheat in New York, 842
Dropkin, V. H., 791
Dubin, H. J., 141
Duchesnea indica, rust of, first report in Indiana, 475
Dupler, M., 242

Echandi, E., 516
Eckert, J. W., 254
Editorial
—Amador, J., IR-4, does it work?, 271
—Ausher, R., extension around the world, 95
—Barnes, L. W., phytopathological diagnostics, 180
—MacKenzie, D. R., language computations and plant health concepts, 904
—Martyn, R. D., plant disease notes, 5
—Ogawa, J. M., Shaw, J. J., and Reed, J. R., video for teaching, 720
—Sequeira, L., biotechnology, 612
—Shurtleff, M. C., using emeritus members, 488
—Smith, S. H., land-grant university role, 811
—Stasz, T. E., and Ellis, M. A., teaching and extension awards, 996
—Vidaver, A. K., annual meeting program, 1087
—Wiese, M. V., economic stress in agriculture, 364
Edwards, D. I., 643
Edwardson, J. R., 273
Eisenback, J. D., 801
El Maataoui, M., 1113
Elad, Y., 426
Electron microscopy
—barley yellow striate mosaic virus, identification, 1113, (1115, 1116)
—cardamom mosaic virus, 65, (67)
—*Ceratocystis fagacearum*, conidia and mucilage, temperature effect, 339, (341)
—cereal chlorotic mottle virus, Moroccan isolate, 912, (914)
—hydrangea ringspot virus, 541, (543)
—lilac witches'-broom, 342, (344, 345)
—mulberry leaf scorch bacterium, xylem-inhabiting, 690, (692, 693)
—phony peach and plum leaf scald bacteria, 182, (185)
—sugarcane mosaic virus, pinwheel inclusions, 624, (625)
—*Tilletia* teliospores, fixation procedure, 458, (459)
ELISA, data interpretation, thresholds, 722
Ellerbrock, L. A., 1154
Ellis, M. A., 24, 475, 938, 996

Ellison, P. J., 202
Elm, Dutch elm disease in Utah, 694
Elmer, W. H., 416
Elsinoë fawcettii, on citrus, selective isolation media, 204
Endocronartium harknessii, on ponderosa pine, resistance in Pennsylvania, 317
Endophyte
—*Acremonium* in fescue and ryegrass, 431
—*Acremonium coenophialum* on tall fescue, callus culture, 380
Engel, R., 749
Englehard, A. W., 575
English, J. T., 148
Entomosporium mespili, on *Photinia* leaves, infection, 191, (193), 519
Epidemiology, atmospheric trajectory analysis, 490
Eplee, R. E., 42
Eremochloa ophiuroides, *Myriogenospora atramentosa* on, in Louisiana, 259
Errata
—vol. 69, no. 11, 1985, 345
—vol. 70, nos. 1 and 2, 1986, 471
Erwinia spp.
—*E. amylovora*: on apple, resistance to, 1017; on pear, epidemiology in Egypt, 230, (232, 233); on pear, in Israel, 1071
—*E. carotovora*, on *Kalanchoë*, etiology and symptoms, 575
—*E. chrysanthemi*: on corn, in Florida, 259; on sorghum, soft-rot pathogen, 593, (594)
—*E. herbicola*, on *Gypsophila*, galls from, 464, (465, 466)
—*E. stewartii*, on corn, outbreak in Ontario, 603
Erysiphe spp.
—*E. graminis*: on *Aegilops*, resistance, 553; on wheat, *Fusarium* interaction, 53
—*E. heraclei*, on carrot, in North Carolina, 892
Eschen, D. J., 800
Euphorbia spp.
—*E. esula*, rust of, biocontrol use, 847
—*E. pulcherrima*, Corynespora bract spot, in Florida, 1074
Evans, I. R., 681
Exserohilum turcicum, race 2
—corn inbred resistance, 376
—mating types and virulence, 290
—quantitative resistance, effect of *Ht* genes, 529

Faber, W. R., 292
Fagan, S. G., 499
Fagbenle, H. H., 643
Falk, B. W., 591
Falloon, L. M., 15, 103
Falloon, P. G., 15, 103
Fargette, D., 173
Fauquet, C., 173
Fay, P. K., 390
Fernández, J. A., 122
Ferree, D. C., 24
Ferris, J. M., 326
Fertigation, in crop management, 998
Fertilizer, calcium and nitrogen, effect on carrot root rot, 819
Fescue, tall
—*Acremonium coenophialum* on, callus culture infection, 380, (381, 382)
—*Acremonium* endophytes in, detection, 431
Festuca rubra, apple orchard cover crop, nematode relation, 436
Fiori, B., 119
Fir
—Phytophthora shoot blight and canker of, 1036
—white, *Lirula abietis-concoloris* on needles of, 13, (14)
Fletcher, J., 754
Focus, 79, 174, 181, 272, 368, 489, 613, 802, 813, 905, 997, 1088
Fontenot, D. B., 59
Forrer, H. R., 53
Fortnum, B. A., 1098
Francl, L. J., 791
Frank, J. A., 857
Franklin, J. D., 587
French, D. W., 424
Fribourg, C. E., 244
Frommeella duchesneae, on false strawberry, first report in Indiana, 475
Frowd, J. A., 38
Fulbright, D. W., 31
Fungicide and Nematicide Update
—fungicide testing, amenity plants, 88
—vegetable crops, fungicide testing, current status, 266
Fungicides (general) (see also Fungicides, specific)
—apple powdery mildew control, ergosterol biosynthesis effect, 305
—apple sooty blotch and flyspeck control, concentrations, 281
—barley root rot effect, 639
—*Botrytis* resistance to benomyl and iprodione, 398
—grape black rot, electronic predictor for fungicide scheduling, 938
—irrigation water application in tobacco, 210
—red pine shoot blight control, 194
—for root-knot nematode on potato, 860
—Sclerotium root rot of carrot, 819
—sterol-inhibiting, for Phymatotrichum root rot, 130
Fungicides (specific) (see also Fungicides, general)
—benomyl: *Botrytis* resistance, 398; cytokininlike properties of, lab studies, 55
—benomyl and thiram, for *Sclerotinia* in soil, 738
—benzimidazole, *Ceratocystis ulmi* tolerant strain, 154
—calcium hypochlorite, for black rot of crucifer, slurry treatment, 1027
—captafol, apple collar rot control, 24
—captan: *Botrytis cinerea* of grape, 398; corn seed treatment evaluation, 45
—chlorothalonil, for onion purple blotch, 875
—fosetyl Al and metalaxyl for *Phytophthora* on grape, 109
—imazalil, for mango decay, 1149
—iprodione: *Botrytis cinerea* resistance, 398; for bottom rot of head lettuce, 506
—mancozeb, prune leaf rust control, in California, 307
—metalaxyl: apple collar rot control, 24; downy mildew of St. Augustinegrass control, 413; spinach foliar disease control, 240
—*N*-(1-alkoxy-2,2,2-trichloroethyl)-2-hydroxybenzamides, clubroot control in Chinese cabbage, 51
—triadimenol, wheat seed treatment for take-all, 749
—vinclozolin, lettuce drop control, timing, 1134
Fungigation, in crop management, 998
Fusarium spp., on corn, stalk rot and tillage effect, 238
—*F. avenaceum*: on canola, seedling blight, 694; on wheat, scab caused by, 1104
—*F. culmorum*, on wheat: powdery mildew interaction, 53; scab caused by, 1104
—*F. graminearum*: on stored corn at low temperature, 78; on wheat, crown rot from, group I, 632; on wheat, scab caused by, 1104
—*F. moniliforme*, on pine seeds, contamination assessment, 452
—*F. nivale*, on wheat, scab caused by, 1104
—*F. oxysporum*: on banana, in Taiwan, 814, (816, 817); on celery, race 2, control, 416, 1154; on garlic, lab evaluation, 670; on mimosa, seedling resistance, 249; on muskmelon, inoculation methods, 297; on muskmelon, races 0 and 2 resistance, 676; on radish, suppression using composted bark, 1023; on squash, nematode relation, 207, (208); on watermelon, soil solarization for, 762
—*F. solani*: on bean, management factors, 163; on beans, tillage, fertility, and irrigation effect, 730; on sweet potato, resistance, 869
—*F. sporotrichioides*, on wheat, pathogenicity, 629, (629)

Gabrielson, R. L., 1027
Gadani, F., 171
Gadoury, D. M., 658
Gaeumannomyces graminis
—on barley and wheat, chlorosulfuron effect on, 879
—on wheat, seed treatment for, 749
Gaines, T. P., 525
Gariepy, Y., 259
Garrett, P. W., 564
Gauder, D. A., 572
Gellner, J. L., 795
George, S. W., 371, 1100
Geranium, bacterial stem rot of, outbreak in Minnesota, 78
Gessler, C., 53
Gibberella zeae, on carnation, N and K effect on, 29
Gill, B. S., 553
Gillett, J. M., 722
Giorda, L. M., 624
Gitaitis, R. D., 151, 187
Glischrochilus quadrisignatus, oak wilt vector in Minnesota, 424
Globodera tabacum, on tobacco, resistance to, 958
Gloeodes pomigena, on apple, fungicides for, 281
Glomerella cingulata, on camellia, preservation method, 499
Goates, B. J., 242
Goddard, C., 579
Godkin, S. E., 173, 352, 541
Golden, J. K., 1064
Golden mosaic virus, on legumes in Venezuela, 981
Goldon, A. M., 210, 1159
Gonsalves, D., 65, 257, 501, 783, 1014
Goodman, R. N., 566
Grape
—black rot of, electronic predictor for, use and control, 938
—*Botrytis cinerea* on, in storage, control with SO_2, 1050
—crown gall, detection and indexing system, 566
—disorders in shipments in New York market, 1075
—Phytophthora root rot of, chemical treatments, 109
—yellows disease, new in Australia, 694
Grau, C. R., 19, 1005, 1095
Graves, C. H., 866
Gray, F. A., 694
Grech, N. M., 352
Grelen, L. B., 59
Gremmeniella abietina, European race in Ontario, 475
Grey, W. E., 122

Griffin, D. H., 803
Griffin, G. D., 694
Grisham, M. P., 413
Gritton, E. T., 1095
Grogan, R. G., 15, 103, 982
Grybauskas, A. P., 1159
Guava, spiral nematode of, pathogenicity, 352
Guayule, parasitic nematodes of, population dynamics, 579
Gubler, W. D., 676, 1050
Gudauskas, R. T., 892
Guignardia bidwellii, on grape, electronic predictor for, chemical control, 938
Gulya, T., 603
Gunasinghe, U. B., 872
Gupta, S. C., 38
Gurkin, R. S., 892
Guthrie, J. E., 38
Gwynn, G. R., 958
Gypsophila paniculata, crown and root galls of, 464, (465, 466)

Haber, S., 981
Hadar, Y., 426
Halbert, S. E., 475
Hall, T. J., 521
Hammerschlag, F. A., 1141
Hanounik, S. B., 770
Hansen, E. M., 352
Harrington, T. C., 1069
Harrison, N. A., 556
Hart, J. H., 1117, 1121
Hartman, G. L., 673, 780
Hartwig, E. E., 787
Hartz, T. K., 762
Harvey, T. L., 553
Hatchett, J. H., 553
Hattingh, M. J., 109, 403
Hau, B., 536
Hawksworth, F. G., 173
Haygood, R. A., 866
Haynes, C., 259
Headrick, J. M., 950
Hecht-Poinar, E. I., 800
Helicotylenchus spp.
—*H. dihystera*, on guava, pathogenicity, 352
—*H. pseudorobustus*: on corn in Iowa, hybrid response, 234; on guayule, population dynamics, 579
Helminthosporium rostratum, on sorghum and sugarcane, new disease, 800
Helsel, D. G., 863
Hendrix, F. F., 134
Hennon, P. E., 352
Herbicides
—charcoal rot of soybean, stress induced by, 863
—chlorsulfuron, Rhizoctonia bare patch and take-all affected by, 879
—*Sclerotinia sclerotiorum* germination affected by, 19
Herbigation, in crop management, 998
Herpotrichia juniperi, on dwarf mistletoe, in California, 798, (799)
Herr, L. J., 831
Hershman, D. E., 927
Hess, W. M., 458
Heterodera spp.
—*H. glycines*: race 5, soil temperature effect in Minnesota, 932; on soybean, biocontrol with *Arthrobotrys amerospora*, 448; on soybean, cropping sequence response, 787; on soybean, first observation in Kansas, 603; on soybean, population dynamics, 791
—*H. lespedezae*, on legumes, cyst production, 643
Hibben, C. R., 342
Hibino, H., 971
Hibiscus, bacterial leaf spot of
—comparison of species, 334, (335)
—strains of, 441, (442)
Highberg, L. M., 825, 828
Hill, R. R., 167
Hine, R. B., 130
Hironaka, R., 218
Hirrel, M. C., 78
Hiruki, C., 1129
Hobbs, E. L., 694
Hoch, H. C., 65
Hoffmann, J. A., 122, 242
Hoitink, H. A. J., 292, 1023
Holcomb, G. E., 259, 1080
Holley, R. C., 661
Hollier, C. A., 59
Honeysuckle latent virus, first report in North America, 352
Honma, S., 416
Hoplolaimus galeatus, on cabbage, fumigant and nematicide effect on yield, 581
Hops, Prunus necrotic ringspot virus on, host range and serology, 1019, (1021)
Horst, R. K., 29
Hotchkiss, M. W., 587
Houfek Christensen, J. A., 475
Howard, R. J., 218
Hoy, J. W., 59
Huang, H. C., 218
Hubbes, M., 968
Hudler, G. W., 1160
Huettel, R. N., 1141
Huftalen, C. S., 1074
Hummel, J. W., 673
Hunter, J. E., 26
Hurtt, S. S., 690
Hussey, R. S., 448
Hwang, S. C., 814
Hwang, S. F., 681
Hydrangea, alfalfa mosaic, hydrangea ringspot, and tobacco ringspot viruses, in British Columbia, 541, (543)
Hydrangea ringspot virus, in British Columbia, 541, (543)
Hypoxylon mammatum, on aspen, 65 years of research, 803, (803, 805, 806, 807)

Injury (see Plant injury)
Insectigation, in crop management, 998
Instructions to Authors, 3
Integrated pest management (see also Crop management)
—residential landscapes, student project, 1160
—southern blight of vegetables, 614
—tomato curly top disease, factors, 136
—on tomatoes, in Florida, 96, (97)
Irrigation
—bean disease effect, 163
—fungicide combination, for tobacco disease, 210
—wheat scab related to, 1104

Irwin, M. E., 872

Jaffee, B. A., 688
Jeffers, S. N., 941, 1038
Jenkins, S. F., 392, 614, 892
Jensen, S. G., 593
Jhooty, J. S., 228
Jimenez-Diaz, R. M., 509
Johnson, A. W., 210, 730, 906, 998
Johnson, D. A., 419
Johnson, M. C., 380
Johnson, W. T., 1160
Johnston, R. H., 421, 749
Johnston, S. A., 266, 927
Jones, J. B., 151, 337, 441, 561, 575, 887
Jones, J. P., 259
Jones, R. K., 240
Jons, V. L., 892
Jonson, G. B., 971
Jordan, E. G., 246
Juglans nigra (see Black walnut)
Juzwik, J., 78, 424

Kable, P. F., 202
Kalanchoë blossfeldiana, bacterial disease of, etiology and symptomatology, 575
Kalb, D. W., 752
Kao, J., 111
Karki, C. B., 684
Katan, J., 738
Kebler, K. M., 577
Kelemu, S., 800
Kempter, B. A., 1146
Kendall, T. L., 964
Kennedy, B. W., 78, 694
Khan, M. A., 777
Khin, M. M., 767
Kirkpatrick, H. C., 444
Kirkpatrick, T. L., 78
Klapproth, M. C., 661
Kleifeld, O., 145
Klisiewicz, J. M., 295
Ko, W. H., 814
Koenig, R., 244
Koike, K., 51
Komn, D. A., 958
Kostka, S. J., 690
Kraft, J. M., 743
Kranz, J., 536
Krausz, J. P., 1098
Kronland, W. C., 1053
Kronstad, W. E., 678
Krupinsky, J. M., 61, 981
Kuan, T.-L., 409
Kucharek, T. A., 583
Kwiatkowski, A., 390

Lacy, M. L., 416
Laemmlen, F. F., 8
Laetisaria arvalis, fluid-drilling gels for delivery as control agent, 835
Lambe, R. C., 981
Langhans, R. W., 29
Larch, needle cast of, in north central USA, 921
Lastra, R., 981
Latin, R. X., 297
Latterell, F. M., 472, 974
Laviolette, F. A., 500
Lawrence, G. W., 545
Lawson, G. M., 475
Layton, A. C., 500
Lazarovits, G., 1071
Leath, S., 529, 800, 981
Leben, C., 521
Lee, R. F., 892
Leek, *Botrytis porri* on, in Canada, 259
Legumes
—lespedeza cyst nematode on, 643
—rod-shaped viruses in, latex agglutination detection test, 777
Leiner, R. H., 577
Lennon, A. M., 1113
Leonard, K. J., 800, 981
Leptosphaeria spp., on wheat in New York, 842
—*L. korrae*, on turfgrass, in Wisconsin, 453, (456, 457)
—*L. lindquistii*, on sunflower, first report in North Dakota and Minnesota, 352
—*L. nodorum*, on brome, prevalence in northern Great Plains, 61, *471*
Leptosphaerulina briosiana, first report on soybean in USA, 1159
Lettuce
—bottom rot of, iprodione for control, 506
—diseases of, economic importance, 982,

(982, 983, 986, 987)
—*Pythium* infection of rootlets, yield loss, 1053, (1055)
—*Sclerotinia* of, first report in Quebec, 603
—*Sclerotinia minor* on: fungicides for, timing, 1134; sclerotial production after disking, 1043; sewage sludge for suppression, 197
—sonchus yellow net virus on, occurrence in Florida, 591
Lettuce infectious yellows virus, on buffalo gourd, 405
Leucospermum spp., Drechslera blight of, 33, (34)
Lewis, C. A., 342
Lewis, J. A., 197
Lewis, S. A., 1066
Liddell, C. M., 475, 632
Lightner, G. W., 261, 605, 988, 1075, 1162
Lilac
—tip dieback, bacterial cause, 647
—witches'-broom of, mycoplasmalike organisms, 342, (343-345)
Lim, S. M., 214
Lin, D., 968
Linden, tip dieback, bacterial cause, 647
Lipps, P. E., 831
Lirula abietis-concoloris, on white fir, foliage disease in California, 13, (14)
Llácer, G., 173
Llewellyn, B., 583
Lockhart, B. E. L., 912, 1113
Lommel, S. A., 964
Long, D. L., 395, 892, 1010, 1107
Lopes, C. A., 259
Lorbeer, J. W., 1134, 1154
Loria, R., 42, 1146
Lozano, J. C., 1089
Luciani, N. D., 883
Luciano, A., 883
Luke, H. H., 252
Lumsden, R. D., 197
Lunden, J. D., 419
Luvisi, D. A., 1050
Luz, W. C. da, 842

MacDonald, D. H., 932
MacHardy, W. E., 658
Mackill, A. O., 125
MacNish, G., 70
Macrophomina phaseolina
—on cowpea, in Botswana, 603
—sclerotia, soil population evaluation, 645
—on soybean: herbicide-induced stress of, 863; twin-stem abnormality from, 1152, (1153)
Macropidia fuliginosa, rusts of, in Australia, 475
Madariaga, R., 651
Madden, L. V., 24, 938, 1023
Magarey, P. A., 694
Magnolia, tip dieback, bacterial cause, 647
Mahr, S. E. R., 506
Main, C. E., 490
Maize (see Corn)
Maize dwarf mosaic virus, kernel, sugar, and sorbitol content affected by, 36
Major, D. J., 572
Malek, R. B., 643
Maliha, N., 770
Maloy, O. C., 1104
Manandhar, J. B., 246, 780
Mango, decay and control, 1149
Manion, P. D., 803
Mansvelt, E. L., 403
Maple, Verticillium wilt, *Bacillus* as biocontrol, 521
Marais, L. J., 892
Marais, P. G., 109
Marcó, G. M., 1074
Marigold, *Alternaria tagitica* on, in New Jersey, 1159
Marois, J. J., 954, 1050
Marte, M., 171
Martin, J. M., 421
Martin, M. W., 136
Martin, S. B., 1038
Martin, T. M., 42
Martyn, R. D., 5, 207, 762
Mathis, A., 53
Mathre, D. E., 122, 421, 639, 749, 981
Matteoni, J. A., 398
Mau, R. F. L., 1014
Mayberry, W. R., 593
Mayetiola destructor, on *Aegilops*, resistance, 553
McArdle, A. J., 249
McBeath, J. H., 801
McCain, A. H., 352, 757, 1036
McCain, J. W., 475
McCarter, S. M., 151
McClary, R. D., 673
McCool, P. M., 357
McCoy, M. S., 801
McDonald, H. J., 879
McGee, D. C., 329
McGuire, J. M., 78
McGuire, R. G., 575, 887
McLaughlin, M. R., 1159
McMullen, M., 892
Melampsora euphorbiae, on spurge, relative host virulence, 847
Meloidogyne spp.: on mimosa, seedling resistance screening, 249; on tobacco, black shank relation, fungicides and irrigation, 210; on tomato, reproductive variability in isolates of, 547
—*M. chitwoodi*: on barley, in Virginia, 801; on potato, chemical control, 860
—*M. graminis*, on bermudagrass and zoysiagrass, reproduction, 559
—*M. hapla*, on sainfoin, first USA report, 694
—*M. incognita*: on bean roots, tillage, fertility, and irrigation effect, 730; on guayule, population dynamics, 579; on peach, resistance, 1141; on squash, *Fusarium* relation, 207; on sweet potato, morphological development, 545; on tobacco, resistance to, 958
—*M. microtyla*: in apple orchard, cover crop relation, 436, (437); on orchard cover grasses, pathogenicity, 438
Mengistu, A., 1005, 1095
Merrill, W., 317
Mesina, E. M., 971
Meyer, W. A., 678
Michailides, T. J., 307, 1060
Microsphaera diffusa, on soybean, Minnesota outbreak, 694
Mielke, M., 259
Mikel, M. A., 36
Milholland, R. D., 371, 1100
Millar, R. L., 509, 752
Miller, D. E., 163
Miller, F. R., 624
Miller, J. W., 346, 441
Miller, M. E., 875
Miller, R. J., 376
Miller, T., 661
Millet, pearl, smut resistance in, stable, 38
Millner, P. D., 197
Mills, L. J., 839
Mimosa, Fusarium wilt and nematodes of, seedling resistance, 249
Mink, G. I., 801
Minsavage, G. V., 409
Minton, N. A., 259
Mirocha, C. J., 78
Mitchell, J. K., 603
Mitchell, W. C., 1014
Monilinia fructicola, on peach, preservation method, 499
Moore, L. W., 532, 647
Moorman, G. W., 160
Morrissey, S. M., 722
Moseman, J. G., 553
Motsinger, R. E., 259
Moyer, D. D., 42
Moyer, J. W., 516
Mucor piriformis
—benomyl resistance and pathogenicity, 106
—on pear: dispersal factors, in orchards and storage, 1060; fruit decay, salt solution effect on, 1110
—on pear fruit, inoculum concentration, 386
—populations in pear orchard soil, in Oregon, 935
Mugala, M., 694
Mulberry, leaf scorch, new disease by bacterium, 690, (691-693)
Muller, I., 461
Mulrooney, R. P., 893
Murray, J. J., 559
Murray, T. D., 314, 378, 851
Muskmelon
—Fusarium wilt: inoculation methods, 297; races 0 and 2 resistance, 676
—shipment disorders in New York, 605
Musselman, R. C., 357
Mycoplasmalike organisms, lilac witches'-broom, cause, 342, (343-345)
Mycosphaerella spp.
—*M. graminicola*, on wheat, stripe rust interaction, 651
—*M. laricina*, on larch in north central USA, 921
Mycotoxins, aflatoxin, in corn kernels, 429
Myers, D. K., 746
Myren, D. T., 78, 475
Myriogenospora atramentosa, on centipedegrass, in Louisiana, 259
Myzus persicae, on soybean, mosaic virus vector, 872

Nafade, S. D., 38
Nagarajan, S., 173
Nakagawa T., 51
Nameth, S. T., 8, 801
Nayar, S. K., 173
Nectria galligena, on black walnut
—site factors, 1117
—tree factors, 1121, (1121, 1122)
Neely, D., 88
Nelson, B., 892
Nelson, L. A., 645
Nelson, M. R., 405, 981
Nemagation, in crop management, 998
Nematicides
—cabbage nematodes affected by, 581
—dichloropropene: for *Criconemella xenoplax* in peach, 1064; for potato and nematode control, 42
Nematodes
—Alaska cedar association, in Alaska, 352
—in apple orchard cover crop, damage from, 436
—on pineapple, principal genera, 81
—population dynamics on guayule, 579
—solarization for, in South Africa, 945
Nene, Y. L., 128
Nesmith, W. C., 727
Newcomb, G. B., 352
Niblack, T. L., 448
Nicholls, T. H., 194, 921
Nitrogen
—carnation stem rot effect, 29
—Phytophthora dieback severity on rhododendron, concentration effect, 292
Norelli, J. L., 1017

Norgren, R. L., 1159
Northover, J., 398
Norton, D. C., 234, 636
Nyczepir, A. P., 538

Oak
—Botryodiplodia canker on sprouts of, in Michigan, 76, (76)
—twig blight, causes in California, 800
—wilt, nitidulid relation in Minnesota, 424
Oats, barley yellow dwarf virus on, generation mean analysis, 795
Obrigawitch, J. A., 593
Ogawa, J. M., 307, 720, 825, 828
Ohmori, K., 51
Oidiopsis taurica, on cotton in California, 259
Okie, W. R., 538, 568
Oleander, *Calonectria crotalariae* on, cuttings rot, 352
Olive, strawberry latent ringspot virus on, in Italy, 171, (171)
Olson, S., 1027
Olthof, T. H. A., 436
Onion
—foliar diseases, chemical control and spray nozzle factors, 583
—purple blotch of, chlorothalonil for, 875
—*Sclerotium rolfsii* on, crop rotation effect, 426
—shipments to New York market, disorders in, 988
Onobrychis viciifolia, northern root-knot nematode of, first USA report, 694
Orf, J., 694
Ormrod, D. P., 55
Ostazeski, S. A., 559
Ostry, M. E., 921

Pace, C. S., 869, 931
Pair, J. C., 877
Palmer, M. A., 194, 921
Papaya, tomato spotted wilt virus on, ELISA for detection, 501, (502-504)
Parish, C. L., 444
Park, E. W., 214
Parmeter, J. R., 800
Parsley, damping-off and temperature effect, 927
Passiflora edulis, tomato ringspot virus of, occurrence in Peru, 244
Pataky, J. K., 950
Patterson, C. L., 982
Paulus, A. O., 8
Pea, Fusarium root rot of, seed electrolyte loss and resistance, 743
Pea seedborne mosaic virus, pea and lentil hosts, pathotypes, 783
Peach
—*Botryosphaeria* diseases of, in Southeast USA, 480, (483)
—brown rot, *Bacillus subtilis* for control, 587
—*Criconemella xenoplax* on, dichloropropene treatments, 1064
—fungal gummosis, symptomatic response of isolates, 568, (571)
—gummosis canker of, population dynamics of pathogen, 134
—nematode resistance in, cytokinin for screening, 1141
—Phytophthora root rot and stem canker, in Mississippi, 866
—Prunus necrotic ringspot virus on: in Pennsylvania, 688; symptomatology in Georgia, 444, (445)
—short life of, environmental and biological factors, 538
—stone fruit rust on, in Australia, 202
Peacock, J. W., 154
Peanut
—bean yellow mosaic virus of, pathogenicity, 667, (668)
—foliar diseases, chemical control and spray nozzle factors, 583
—pod rot complex of, geocarposphere nutrient imbalance, 525
Peanut stunt virus, on white clover, first report in Iowa, 1159
Pear
—fire blight of: epidemiology in Egypt, 230, (232, 233); in Israel, 1071
—fruit decay: inoculum concentration effect, 386; side rot, salt solution effect, 1110
—*Mucor piriformis* on, dispersal factors in orchards and packinghouse, 1060, (1062)
—postharvest decay, fungus interactions, 1132
—tip dieback, bacterial cause, 647
Pedersen, W. L., 45, 290, 376, 529
Pellionia spp., *Xanthomonas campestris* on, new disease, 346, (346)
Penicillium spp., benomyl resistance and pathogenicity, 106
—*P. digitatum*, selective medium for isolation, 254
—*P. expansum*, on pear fruit: fungus interactions, 1132; inoculum concentration, 386; salt solution effect, 1110
Pepper, foliar diseases, chemical control and spray nozzle factors, 583
Pepper mottle virus, serological detection, 173, *471*
Perkins, J. M., 45, 376
Peronospora tabacina, on tobacco
—epidemiology, 490, (490)
—symptoms and disease severity, 727
Pest reporting system, computerized, state-federal, 365
Pestalotia guepini, preservation method, 499
Petersen, R. R., 70
Pfahler, P. L., 252
Pfleger, F. L., 78
Phaeocryptopus gaeumannii, on Douglas-fir, distribution in New Hampshire, 1069
Phaeosphaeria nodorum, on wheat in New York, 842
Phaseolus spp.
—*P. lunatus*, root disease, tillage, fertility, and irrigation effect, 730
—*P. vulgaris*: root disease, tillage, fertility, and irrigation effect, 730; Xanthomonas blight of, wintering of, in Michigan, 285
Phatak, S. C., 906
Phialophora spp.
—*P. gregata*, on soybean: resistance to, 1095; variation, 1005, (1007)
—*P. malorum*, on pear fruit: postharvest decay, 1132; salt solution effect, 1110
Phoma medicaginis, on alfalfa, severity in Ohio, 746
Phomopsis spp., on soybean seeds, tillage relation, 673
—*P. citri*, on mango, control, 1149
—*P. longicolla*, on soybean seed, prediction, 329
—*P. occulta*, on spruce, in Wisconsin, 1159
Phosphorus, carnation stem rot effect, 29
Photinia
—Entomosporium leaf spot of, leaf infection, 191, (193)
—*Entomosporium mespili* on, infection conditions, 519
Phymatotrichum omnivorum, sterol-inhibiting fungicides for, activity, 130
Phytophthora spp.: on apple root stocks, seasonal variation, 941; medium selective for, 1038
—*P. cactorum*, on apple, fungicide and composted bark effect on, 24
—*P. cinnamomi*: on avocado, lab screening technique, 115; on grapevine, chemical treatment, 109; on peach, in Mississippi, pathogenicity, 866; on rhododendron, nitrogen effect, 292; solarization for control, in South Africa, 945
—*P. citricola*, on fir, blight and canker caused by, 1036
—*P. fragariae*: growth on selective media, 1100; on strawberry, inoculation and evaluation, 371, (374)
—*P. megasperma*: on alfalfa, flooding stress effect, 310; on alfalfa, resistance and planting date, 655; on asparagus, yield effect, 15; on soybean, cultivars and yield responses, 468; on soybean, first report of race 1 in Delaware, 78; on soybean, new race, 500
—*P. parasitica*, on tobacco, root-knot relation, fungicides and irrigation, 210
Pierce, L., 352
Pike, K. S., 475
Pilea spp., *Xanthomonas campestris* on, new disease, 346, (346)
Pine
—dwarf mistletoe of, in California, 173
—loblolly, hybrid resistance to fusiform rust, 564
—longleaf: fusiform rust of, seedling susceptibility, 50; seedling blight of, cause, 148, (148)
—ponderosa, pine gall rust of, resistance in Pennsylvania, 317
—red: pinewood nematode on, in Ontario, 78; shoot blight of, fungicides for, 194
—seed contamination by *Fusarium moniliforme*, 452
—slash and loblolly, fusiform rust epidemics in plantations, 661
Pineapple, nematode and diseases of, 81, (82, 83)
Pinkerton, J. N., 860
Plant health strategies
—cotton plant health maintenance, 477
—potato production, management for optimum health, 354
Plant injury analysis, contingency tables, an alternative to analysis of variance, 357
Plasmodiophora brassicae, on Chinese cabbage, chemical control, 51
Ploetz, R. C., 148, 600
Plum, tomato ringspot virus of, distribution at graft unions, 257
Plum pox virus, on Japanese plum, new host, 173
Podosphaera leucotricha, on apple, fungicides for, ergosterol biosynthesis effect, 305
Pohronezny, K., 96
Poinsettia
—Alternaria blight of, etiology and control, 73, (74)
—Pythium root rot of, fertilization relation, 160
Politis, D. J., 288
Polymyxa graminis, wheat spindle streak mosaic virus vector, in resistant roots, 31
Poncirus trifoliata, citrange stunt virus of, in South Africa, 892
Ponti, R. P., 860
Poole, R. T., 1144
Poole, T. E., 559
Poplar, Septoria canker of, in southern Ontario, 968
Porter, D. R., 655
Portulaca oleracea
—black stem rot of, in Texas, 603
—stem blight of, first report in Virginia, 352
Postharvest diseases
—apple and pear, *Botrytis*, *Penicillium*, and

Mucor and benomyl resistance, 106
—*Botrytis* on grape berries, SO_2 for control, 1050
—chlorine and wax for lime fruit related to bacteriosis, 1046
—citrus shipments, New York market, 1162
—*Mucor piriformis* in pear, factors, 1060, (1062)
—peach brown rot, *Bacillus subtilis* for control, factors, 587
—pear fruit decay: fungus interactions, 1132; inoculum concentration effect, 386; salt solution effect on, 1110
—tomato shipment disorders, New York market, 261
Potassium, carnation stem rot effect, 29
Potato
—early blight, forecasting methods in Wisconsin, 915
—geminivirus of, in Venezuela, 603
—root-knot nematode of, chemical control, 860
—scab, resistance, seed piece vs. stem cuttings, 1146, (1147-1148)
Potato leafroll virus, resistance to, cultivar evaluation, 621
Potato spindle tuber viroid, complementary DNA probe use, 774
Potato virus Y, field resistance, cluster analysis, 301
Potter, J. W., 438
Potyviruses, cardamom mosaic virus, properties, 65
Powell, C. A., 688
Powelson, R. L., 70, 122
Powers, K., 1132
Pratylenchus spp.: on corn in Iowa, hybrid response, 234; tillage effect on populations, in soil, 326
—*P. penetrans*: on peach, resistance, 1141; on potato, fumigation for, groundwater contamination, 42
—*P. safaensis*, first report in USA, 259
—*P. scribneri*: on corn, pathogenicity, 636; on guayule, population dynamics, 579
Preservation of fungi, *Glomerella*, *Monilinia*, and *Pestalotia* on filter paper, 499
Price, M., 1159
Provvidenti, R., 783, 981
Prune
—leaf rust, chemical control in California, 307
—stone fruit rust of, races in Australia, 202
Prunus necrotic ringspot virus
—on peach: in Pennsylvania, 688; symptomatology in Georgia, 444, (445)
—serotypes from hops, host range, 1019, (1021)
Prunus spp., crown gall of, prevention by heating, 532
Pscheidt, J. W., 915
Pseudocercosporella herpotrichoides, on wheat, host resistance and yield, 851
Pseudomonas spp.: on hibiscus, bacterial species comparison, 334; on tomato, species separation by fluorescence, 151
—*P. cichorii*, on schefflera, leaf spot severity factors, 561
—*P. currugata*, on tomato, in Louisiana, 1074
—*P. syringae*: on apple, in South Africa, 403, (404); on grasses, in Alaska, 801; on hibiscus, strains of, 441, (442); on soybean, yield effect, 214; on tobacco, resistance to, 958; on tomato, biological and chemical treatments for, 1048; on woody plants, in Pacific Northwest, 647, (649)
Puccinia spp.
—*P. carduorum*, on musk thistle, infection factors, 288
—*P. graminis*: isozymic variation, detection by electrophoresis, 1139; races, in USA and Mexico, 1010; on ryegrass, resistance inheritance, 678
—*P. haemodori*, on kangaroo paws in Australia, 475
—*P. helianthi*: on sunflower, differentials in North Dakota, 883; on sunflower, races in Texas, 603
—*P. obtegens*, teliospore germination, factors affecting, 390
—*P. recondita*: on *Aegilops*, resistance, 553; on smooth bromegrass, 801; on wheat, local source in Pennsylvania, 892; on wheat, virulence and epidemiology, 395, 1107
—*P. sorghi*, on sweet corn, night temperature and mist period effect, 950
—*P. striiformis*: on barley, epidemic in South America, 141; on wheat, *Mycosphaerella* interaction, 651; on wheat, race 13, 173
Punja, Z. K., 819
Purcifull, D. E., 591
Pusey, P. L., 538, 568, 587
Pyrenochaeta terrestris, on garlic, lab evaluation, 670
Pyrenophora spp., on brome, prevalence in northern Great Plains, 61, *471*
—*P. bromi*, on bromegrass, resistance to, 324
—*P. teres*, on barley, isolate variation, 684
—*P. tritici-repentis*, on wheat in New York, 842
Pyricularia oryzae
—new hosts of, 125
—physiologic specialization in Philippines, 767
Pythium spp.: on beans, tillage, fertility, and irrigation effect, 730; medium selective for, 1038; on parsley, damping-off and temperature effect, 927
—*P. dissotocum*, on lettuce, feeder root infection, yield loss, 1053, (1055)
—*P. ultimum*, on poinsettia, fertilization association, 160

Radish, Fusarium wilt of, suppression using composted bark, 1023
Radke, V. L., 19
Radtke, J. A., 376
Raghavan, G. S. V., 259
Raju, B. C., 182, 441
Ramsdell, D. C., 722
Randle, W. M., 869
Rapeseed (see Canola)
Raupp, W. J., 553
Reddy, M. V., 128
Reed, J. R., 720
Reed, S. M., 958
Reeder, W. F., 1149
Reeleder, R. D., 259, 603
Reilly, C. C., 538, 568
Reilly, J. J., 958
Rengwalska, M. M., 670
Resistance
—*Aegilops squarrosa* to rust, mildew, greenbug, and Hessian fly, 553
—alfalfa to Phytophthora root rot, planting date effect, 655
—bromegrass to brown leaf spot, 324
—celery to Fusarium yellows, race 2, 416
—corn to northern corn leaf blight, race 2, 376
—faba bean to chocolate spot, 770
—garlic to pink root and Fusarium basal rot, 670
—loblolly and pitch pine hybrids to fusiform rust, 564
—muskmelon to *Fusarium oxysporum*, races 0 and 2, 676
—oats to barley yellow dwarf virus, 795
—peaches to nematodes, 1141
—peas to Fusarium root rot, 743
—potato: to potato leafroll virus, 621; to potato virus Y, cluster analysis, 301; to scab, 1146
—ryegrass to stem rust, inheritance, 678
—soybean to brown stem rot, 1095
—strawberry to red stele, 371
—sunflower to Alternaria leaf blight, 831
—sweet potato selections to *Fusarium solani*, 869
—tobacco to virus, nematodes, and wildfire, 958
—wheat: to Cephalosporium stripe, 314; to strawbreaker foot rot, 851
Reuveni, M., 727
Reviewers, acknowledgment of, 6
Rewal, H. S., 228
Rhabdocline spp., on Douglas-fir, in New Hampshire, 1069
Rhizoctonia solani
—AG-3 and 27 plant species interactions, 577
—on barley and wheat, chlorsulfuron effect on, 879
—on beans, tillage, fertility, and irrigation effect, 730
—biological control using gels, 835
—on canola, characterization in Alberta, 681, (683)
—on lettuce, iprodione for, 506
—on longleaf pine, seedling blight, 148, (148)
—on parsley, damping-off and temperature effect, 927
—in soil, quantitative recovery, 320
—on wheat, tillage effect in Pacific Northwest, 70, (71)
Rhoades, H. L., 581
Rhodes, L. H., 746
Rhododendron, Phytophthora dieback, nitrogen effect, 292
Rhynchosporium secalis, on barley, unique symptoms, 800
Ribeiro, W. R. C., 977
Rice tungro spherical virus, in the Philippines, spread, 971
Ridings, W. H., 866
Robbins, K., 76, 921
Roberts, E. J. F., 603
Roberts, J. J., 1107
Roberts, P. A., 547
Rochow, W. F., 461
Roelfs, A. P., 395, 1010, 1107, 1139
Rohrbach, K. G., 81
Rose, powdery mildew of, variation in Oregon populations, 383
Rose-Fricker, C. A., 678
Rosemeyer, M. E., 405
Ross, J. P., 222
Rossell, E. L., 819
Rossi, A. E., 472, 974
Rovira, A. D., 879
Rowe, R. C., 354
Royer, M. H., 225
Rugini, E., 171
Ruhl, G. E., 475
Russian olive, cankers in windbreaks, in North and South Dakota, 981
Russin, J. S., 759
Ryegrass: perennial
—*Acremonium* endophytes in, detection, 431
—stem rust of, resistance inheritance, 678
Rytter, J., 225

Saettler, A. W., 285
St. Augustinegrass, downy mildew of, metalaxyl for, 413

Sanders, D. C., 892
Sanderson, P. G., 1159
Sands, D.C., 390
Santamour, F. S., Jr., 249
Santo, G. S., 860
Sappenfield, W. P., 551
Sasser, M., 887
Savino, V., 171
Schaad, N. W., 409
Schafer, J. F., 395, 892, 1107
Scharen, A. L., 651
Scharpf, R. F., 13, 173, 798, 1036
Schefflera arboricola:
—Alternaria leaf spot, fertilizer effect, 1144
—bacterial leaf blight, factors affecting, 561
Schizaphis graminum, on *Aegilops*, resistance to, 553
Schizothyrium pomi, on apple, fungicides for, 281
Schmidt, R. A., 661
Schmitthenner, A. F., 310
Schreiber, L. R., 154, 521
Schultz, T., 1027
Schuster, D. J., 96
Schwinghamer, M. W., 774
Sclerophthora macrospora
—on barley, oats, and wheat, in North Dakota, 892
—on St. Augustinegrass, metalaxyl for, 413, (414)
Sclerotinia spp.
—*S. minor*, on lettuce: first report in Quebec, 603; fungicides for, timing, 1134; sclerotial production in field after disking, 1043; sewage sludge for suppression, 197
—*S. sclerotiorum*: on bean, management factors, 163; on cabbage, ragweed association, 26, (27, 28); carpogenic germination of, herbicide effect, 19; in soil, fungicidal control, 738
Sclerotium rolfsii
—biocontrol using gels, 835
—on carrots, fertilizers, fungicides, and tillage effects, 819, (820)
—on onion, crop rotation effect, 426
—on vegetables, integrated control, 614, (614)
Scott, G. R., 774
Scott, H. A., 78, 1074
Scott, J. W., 337
Sechler, D. T., 795
Sedlar, L., 847
Seedborne fungi, on soybean, seed quality factors in Illinois, 246
Selenophoma sp., on corn, leaf spot in Colombia, 472, (473)
Septoria spp., on wheat in New York, 842
—*S. musiva*, on poplar, in southern Ontario, 968
—*S. nodorum*, on wheat, seed infection, 252
Sequeira, L., 506, 612
Sequoia, *Botryosphaeria dothidea* on, pathogenicity, 757, (758)
Setosphaeria turcica, race 1, 1985 epidemic in North Carolina, 981
Shabi, E., 1071
Sharma, H. C., 553
Sharp, E. L., 684, 800
Sharpe, R. R., 538
Shaw, C. G., III, 352
Shaw, J. J., 720
Shefelbine, P. A., 639
Sherald, J. L., 690
Sherring, W., 119
Sherwood, R. T., 324, 801
Shokes, F. M., 600
Shurtleff, M. C., 488
Siegel, M. R., 380, 727
Sim, T., IV, 475, 603
Simon, P. W., 670
Simone, G. W., 1074
Sinclair, J. B., 246, 673, 780
Singleton, L. L., 655
Sirococcus strobilinus, on spruce, in Wisconsin, 1159
Skotland, C. B., 1019
Slack, S. A., 754
Smidt, M., 1031
Smilanick, J. L., 242, 254
Smith, B. J., 1074
Smith, D. B., 1056
Smith, D. M., 461
Smith, D. R., 1019
Smittle, D. A., 187, 730, 906
Snell, S. J., 297
Snow, J. P., 759
Soilborne pathogens, conservation tillage effects in vegetables, 906
Solarization
—Fusarium wilt of watermelon controlled by, 762
—nematode and *Phytophthora* control in South Africa, 945
Sonchus yellow net virus, on lettuce, in Florida, 591
Sonoda, R. M., 96
Sorghum
—red spot of, new disease, 800
—seedling emergence, factors affecting, 572
—soft-rot bacterium, identification, 593
—sugarcane mosaic virus of, strain H, 624, (625-627)
Sortland, M. E., 932
Soybean
—bacterial blight, yield effect, 214
—bean pod mottle virus of, early and late planting response, 222
—brown stem rot and vascular discoloration: pathogens, 1005; resistance to, 1095
—charcoal rot of, herbicide effect, 863
—*Colletotrichum* spp. on, pathogenicity in Illinois, 780
—cyst nematode: cropping sequence response, 787; first found in Kansas, 603; population dynamics, 791
—disease loss estimates for southern USA, 893
—*Leptosphaerulina briosiana* on, first report in USA, 1159
—Phomopsis seed decay of, prediction, 329
—Phytophthora root rot resistance, monoculture and yield responses, 468
—powdery mildew outbreak, in Minnesota, 694
—root and stem rot of, race 1 reported, 78
—root rot of, in Brazil, 977, (978, 979)
—seed quality, factors in Illinois, 246
—stem canker: first report in Arkansas, 78; status in Florida, 600
—stem canker and alfalfa hopper effect, yield, 759
—tillage effect and weed control, 673
—twin-stem abnormality, 1152, (1153)
Soybean mosaic virus, aphid vector transmission behavior, 872
Spalding, D. H., 1149
Sphaeropsis sapinea, on red pine seedlings, fungicides for, 194
Sphaerotheca pannosa, on rose, variation in Oregon populations, 383
Spielman, L. J., 968
Spinach, foliar diseases of, metalaxyl for, 240
Spiroplasma citri, detection assay, latex agglutination, 754
Spissistilus festinus, soybean stem canker and yield affected by, 759
Spotts, R. A., 106, 305, 386, 935, 1060, 1110
Sprenkel, R. K., 600
Spruce
—needle rust epidemic in Alaska, 801
—Phomopsis and Sirococcus shoot blights, in Wisconsin, 1159
Squash, zucchini yellow mosaic virus of, characterization, in Turkey, 735
Squash mosaic virus, on buffalo gourd, 405
Stack, R. W., 29
Stagonospora nodorum, on wheat in New York, 842
Stall, R. E., 259, 583
Stanghellini, M. E., 1053
Stapleton, J. J., 1046
Starr, J. L., 207
Stemphylium vesicarium, on asparagus, wounding and wetting effect, 419
Stenocarpella maydis, on corn, stalk rot and tillage effect, 238
Stevens, C., 892
Stevenson, W. R., 506, 915
Stewart, J. S., 453
Stienstra, W. C., 694
Stigmina carpophila, on almond
—survival in buds, 828
—yield reduced by, 825
Stiles, W. C., 1125
Stockwell, V. O., 924
Stowell, L. J., 954
Strausbaugh, C. A., 1104
Strawberry
—anthracnose fruit rot, in Ohio, 475
—*Colletotrichum acutatum* on, first USA report, 1074
—red stele disease, inoculation and evaluation, 371, (374)
—tomato ringspot virus on, ELISA determination, 369
Strawberry latent ringspot virus, on olive, in Italy, 171, (171)
Streptomyces spp.
—*S. ipomoea*, serological detection, 516
—*S. scabies*, tuber vs. stem resistance, 1146, (1147, 1148)
Stromberg, E. L., 801
Stubbs, R. W., 141
Stuteville, D. L., 475
Su, H. J., 814
Subba Rao, K. V., 38
Subbayya, J., 128
Sugar, D., 1110, 1132
Sugarcane
—ratoon stunting disease of, *Clavibacter* relation, 556
—red spot of, new disease, 800
—smut incidence in Louisiana, yield effect, 59
Sugarcane mosaic virus, on sorghum, strain H identification, 624, (625-627)
Sumner, D. R., 730, 906, 998
Sundaram, N. V., 38
Sunflower
—Alternaria leaf blight and stem spot of, resistance to, 831, (833)
—Phoma black stem of, first report in North Dakota and Minnesota, 352
—rust of, system naming cultures with differentials, 883
—rust races in Texas, 603
Sutker, E. M., 847
Sutton, T. B., 281
Sutula, C. L., 722
Swanson, T. A., 681
Sweet clover necrotic mosaic virus, in Alberta, 1129
Sweet potato
—Fusarium root and stem canker of, resistance, 869
—root-knot of, infection and morphological development, 545
Sweet potato feathery mottle virus, wild

species as reservoirs in Louisiana, 931
Sztejnberg, A., 349

Taber, R. A., 892
Tai, G. C. C., 301, 621
Tainter, F. H., 339
Tarbah, F. A., 566
Tattar, T. A., 690
Taylor, P. W. J., 632
Teaching, pest management project, Cornell, 1160
Teso, R. R., 357
Tewari, J. P., 694
Thakur, D. P., 38
Thakur, R. P., 38
Thapliyal, P. N., 246
Thomas, C. A., 78
Thomas, C. S., 1117, 1121
Thomas, P. E., 136
Thomas, S. H., 234, 579
Thomason, I. J., 547
Thomison, P. R., 78
Thomson, S. V., 694
Thouvenel, J.-C., 173
Threadgill, E. D., 730, 906, 998
Tillage (see also Conservation tillage)
—bean root diseases related to, soil fertility and irrigation, 730
—effect on bean diseases, 163
—nematode population affected by, in soil, 326
—Sclerotium root rot of carrot affected by, 819
—soybean seed quality affected by, 673
—vegetable diseases affected by, 906, (906)
Tilletia spp.: germination, after animal ingestion, 242; teliospores of, characterization by electron microscopy, 458, (459)
—*T. controversa*: teliospores of, species distinction with epifluorescence microscopy, 924, (925, 926); on winter wheat, seedborne importance in commerce, 122
—*T. indica*, on wheat, kernel and spike infection relation, 225
Tkacz, B. M., 694
Tobacco
—black shank/root-knot complex, fungicides and irrigation, 210
—blue mold of, symptoms and disease severity, 727
—blue mold epidemiology, 490
—cyst and root-knot nematodes, and wildfire, resistance, 958
Tobacco mosaic virus
—genetic resistance, other diseases, 958
—inoculum increase, 1098
Tobacco ringspot virus, on hydrangea, in British Columbia, 541
Tobacco streak virus, on asparagus, California survey, 103
Todd, T. C., 603
Toler, L. M., 624
Toler, R. W., 413
Tolyposporium penicillariae, on pearl millet, stable resistance identification, 38
Tomato
—bacterial speck, biological and chemical treatments for, in Morocco, 1048
—bacterial spot of, hypersensitive response, 337
—curly top disease of, resistance, 136
—disorders, shipments in New York market, 261
—integrated pest management of, 96, (97)
—*Pseudomonas* spp. on, fluorescence for separation, 151
—root-knot nematodes of, reproductive variability in isolates, 547
—tomato pith necrosis of, in Louisiana, 1074
Tomato aspermy virus, first report in Arkansas, 1074
Tomato ringspot virus
—in passion fruit, occurrence in Peru, 244
—on Stanley plum trees, distribution at graft unions, 257
—on strawberry, ELISA determination, 369
Tomato spotted wilt virus
—on papaya, ELISA for detection, 501, (502-504)
—weed hosts, reservoirs, 1014
Towers, B., 259, 317
Townshend, J. L., 438
Toxin (see Mycotoxin)
Tranzschelia discolor
—physiologic specialization, in Australia, 202
—on prune, chemical control in California, 307
Trees, tip dieback, in Pacific Northwest, 647
Trew, I. F., 564
Trichoderma harzianum
—biocontrol agent, plant response, 145
—fluid-drilling gels as delivery agent, in biocontrol, 835
Trifolium spp., virus infections in field, 119
Trillas-Gay, M. I., 1023
Trione, E. J., 458, 924
Trujillo, E. E., 65, 472, 501, 974
Tu, J. C., 694
Tubercularia ulmea, on Russian olive, canker cause in North and South Dakota, 981
Tufford, L. A., 461
Turfgrass, necrotic ring spot of, in Wisconsin, 453, (456, 457)
Turner, M. L., 658
Turner, S. K., 390, 847
Turnip mosaic virus, on Alabama, 892
Tylenchorhynchus spp., on corn in Iowa, hybrid response, 234
Typhula spp., on wheat, in Oklahoma, 169

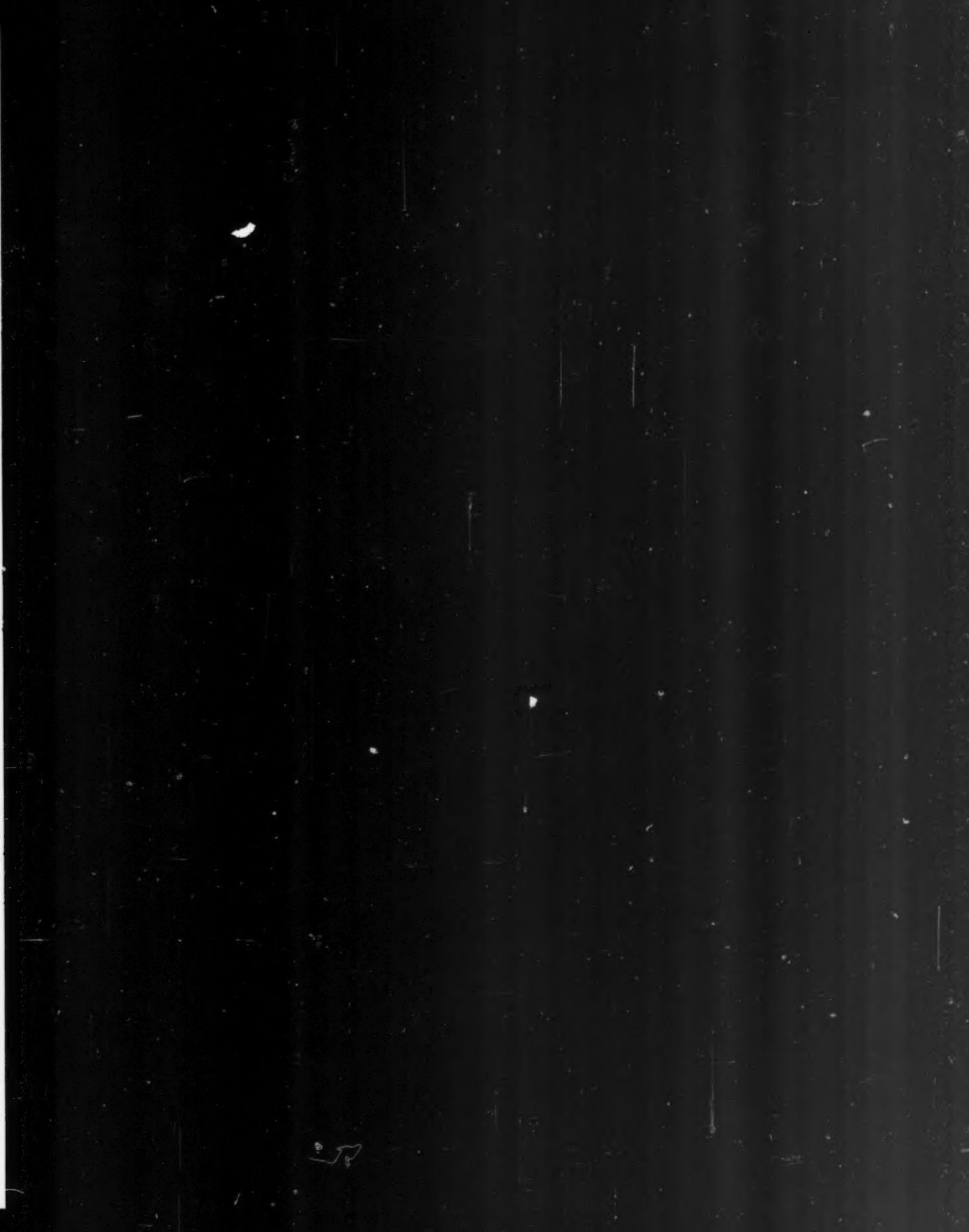
Uchida, J. Y., 73
Urben, A. F., 977
Ustilago spp.
—*U. scitaminea*, on sugarcane, yield effect in Louisiana, 59
—*U. tritici*, on wheat, races in India, 228

Van Bruggen, A. H. C., 320
van der Zwet, T., 230
Vargo, R. H., 629
Varner, V., 892
Varney, E. H., 927
Vegetables, diseases of, conservation tillage effects, 906
Venette, J. R., 352
Venturia inaequalis, on apple, germination and appressorium formation, 658
Vergel de Dios, T. I., 767
Verticillium spp.
—*V. albo-atrum*: on alfalfa, first report in Kansas, 475; on alfalfa, survival in sheep or manure, 218; on alfalfa, systemic colonization, 509, (513, 514); fungus gnat as vector, 752
—*V. dahliae*: on barley, 981; on maple, *Bacillus* as biocontrol, 521
Viburnum, alfalfa mosaic virus of, first report in Canada, 173
Vicia faba, chocolate spot of, resistance, 770
Vidaver, A. K., 1031, 1087
Vigna mungo, blackeye cowpea mosaic virus on, seed transmission, 981
Vinca minor, cucumber mosaic virus on, in New Jersey, 1056
Viruses
—clover spp. susceptible to, 119
—on cowpea in Botswana, 801
—ELISA, data interpretation, thresholds, 722
—inclusions, microscope techniques for detection, 273, (274-278)
—latex agglutination test, in forage legumes, 777
von Broembsen, S. L., 33, 945
Vonmoos, R., 847

Wachtel, M. F., 694
Waddill, V. H., 96
Waines, J. G., 553
Walker, H. L., 962
Walkinshaw, C. H., 50
Wall, R. E., 158
Wallenmaier, T. E., 365
Wallin, J. R., 429
Wang, W. Y., 839
Watermelon, Fusarium wilt of, soil solarization for, 762
Watermelon curly mottle virus, on buffalo gourd, 405
Watermelon mosaic virus 1
—on buffalo gourd, 405
—in Niger, 173
Watson, B., 931
Watson, M. E., 292
Waudo, S. W., 636
Wax, L. M., 673
Weeds, *Colletotrichum* spp. on, soybean relation, 780
Weller, D. M., 70, 285
Wells, J. M., 182,444
Welty, R. E., 431
Wenner, N., 317
Westcott, S. W., III, 1125
Wheat
—Cephalosporium stripe: disease of, inoculum concentration effect, 421; resistance, 314
—common root rot of, crop management practices for, 857
—crown rot of, *Fusarium graminearum* group 1, 632
—downy mildew in North Dakota, 892
—foliar diseases, distribution and severity in New York, 842
—*Fusarium sporotrichioides* on, 629
—karnal bunt of, kernel and spike infection, 225
—leaf rust of, epidemiology in USA, 395, 1107
—local rust source, in Pennsylvania, 892
—loose smut of, races in India, 228
—management systems of, in Pacific Northwest, 894
—powdery mildew and *Fusarium culmorum* infection, relations, 53
—*Puccinia striiformis* on, race 13, in India, 173
—Rhizoctonia and take-all on, herbicide effect, 879
—Rhizoctonia root rot of, tillage effect in Pacific Northwest, 70, (71)
—scab, Fusarium spp., 1104
—seedborne smut infection, international importance, 122
—Septoria nodorum blotch, seed infection, 252
—strawbreaker foot rot, host resistance and yield, 851
—stripe rust and leaf spot interaction, 651
—take-all, seed treatment for, 749
—*Typhula* snow mold of, in Oklahoma, 169
Wheat spindle streak mosaic virus
—cultivars and lines resistant to, identification, 31
—identification and role in Kansas, 964, (965)

White, D. G., 45
Whiteside, J. O., 204, 1074
Whitlock, V. H., 167, 800
Whitney, N. G., 892
Whitson, R. S., 130
Wickizer, S. L., 78
Widick, D., 787
Wiersma, J., 694
Wiese, M. V., 364
Wild rice, diseases in Idaho, first report, 800
Willers, P., 352
William, E., Jr., 169
Williams, R. J., 38
Willis, W. G., 475, 877, 964
Wilson, C. L., 587
Wilson, J. H., 860
Wilson, L. L. 938
Wilson, M. A., 892
Wofford, D. S., 694
Worf, G. L., 453, 1159
Worrall, J. J., 757
Wrather, J. A., 551
Wyllie, T. D., 863, 1152
Wymore, L. A., 1134

Xanthomonas spp., on geranium, Minnesota outbreak, 78
—*X. campestris*: on *Brassica campestris*, aerial dispersal, 409; on bean, nonoverwintering in Michigan, 285; on cassava, control, 1089, (1090); on cassava, in South Africa, 167, (168); on cotton buds, colonization, 551; on cowpea, epidemiology and control, 187; on crucifer seed, calcium hypochlorite for, 1027; on hibiscus, bacterial species comparison, 334, (335); on lime, postharvest treatment for, 1046; on tomato, hypersensitive response, 337; selective media for, from soil and plants, 887, (888)
Xiphinema americanum, on corn in Iowa, hybrid response, 234

Yang, S. M., 603, 883
Yarden, O., 738
Yoshimura, M. A., 73
Young, J. R., 998
Young, L. D., 787
Younglove, T., 357

Zagula Haufler, K., 31
Zaske, S. K., 1113
Zehr, E. I., 1064, 1066
Zeidan, O., 426
Zeiders, K. E., 324, 801
Zink, F. W., 676
Zoysiagrass, root-knot nematode of, reproduction determination, 559
Zucchini yellow mosaic virus
—on cucurbits, in California, 8, (11)
—first report in Ohio, 801
—on squash: in Arkansas, 78; in Turkey, 735
Zummo, N., 800
Zutra, D., 1071